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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,241	01/09/2007	Heinz Riess	306.46102X00	6951
20457	7590	08/14/2008	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP			TILLMAN, JR, REGINALD S	
1300 NORTH SEVENTEENTH STREET				
SUITE 1800			ART UNIT	PAPER NUMBER
ARLINGTON, VA 22209-3873			4155	
			MAIL DATE	DELIVERY MODE
			08/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/575,241	RIESS ET AL.
	Examiner	Art Unit
	REGINALD TILLMAN, JR	4155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-12 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 01/09/2007 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>5/1/07</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 4155

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The clause ". . . readily deformable material, preferably lead," is indefinite because it fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

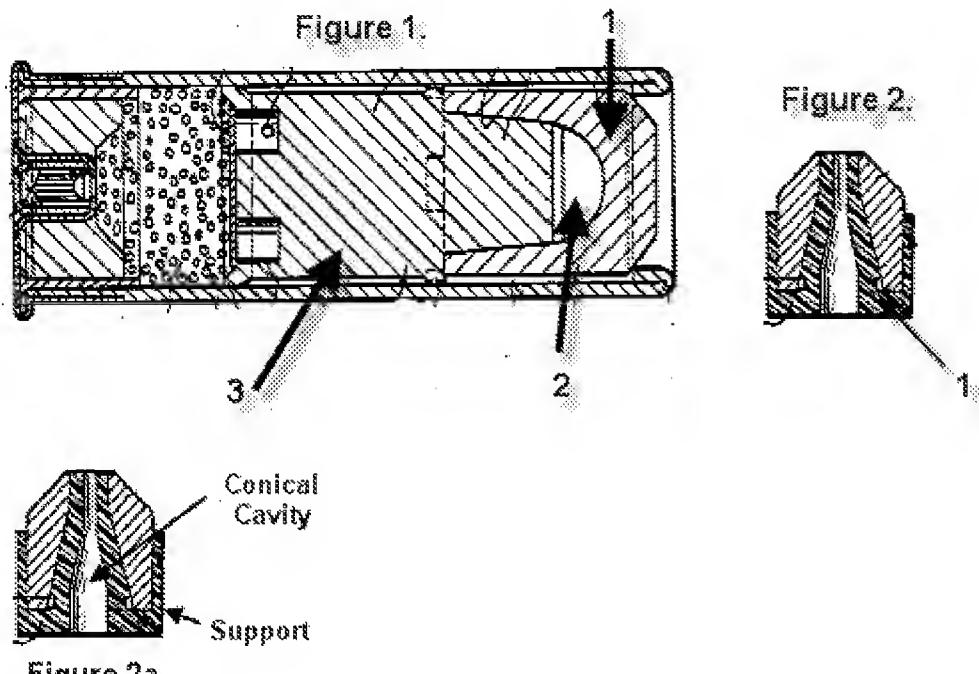
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 3, 9, 10, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maki (US 4,587,905) in view of W. Tanner et al. (US 3,058,420).

Consider claim 1, Maki teaches a shotgun barrel projectile with an intercalation for fitting into a cartridge. (See Figure 1. below, part 1). Maki further teaches that the projectile exhibits a cylindrical free space on its underside with the intercalation taking the form of a plunger at its end facing towards the projectile, and the plunger having a diameter adapted to the free space. (See Figure 1. below, part 2). Maki further teaches that the projectile is mounted onto the plunger, or conversely the plunger is inserted into the free space. (See Figure 1. below, part 3). Maki does not teach the "wedge in the course of firing" feature; however, W. Tanner et al. (US 3,058,420) does teach the "wedge in the course of firing" feature. (See figure 2. below, part 1; see also

Tanner et al. column 2, line 66). Therefore, it would have been obvious to one with ordinary skill in the art to combine the wedge taught by Tanner et al. to the projectile taught by Maki. The motivation would have been to produce a more positive connection between the projectile and plunger.



Consider claim 2, Maki does not teach a shotgun projectile where the free space exhibits a projectile spigot arranged on the axis of symmetry. Maki does not teach a shotgun projectile where the plunger exhibits a free space arranged on the axis of symmetry and the spigot and bore are substantially adapted to one another in diameter. Maki does not teach a shotgun projectile where the spigot and bore are endowed with wedging elements which in the course of firing the wedges the plunger to the ball cartridge. However, Tanner et al. teaches a shotgun projectile with a truncated conical cavity capable of interlocking with a

support located under the projectile. See Figure 2a.; *see also* Tanner et al., column 2, line 69, ("On firing of a shotgun cartridge . . . the slug will tend to deform and material near its base will flow into the radial groove."). Therefore, it would have been obvious for one skilled in the art at the time the invention was made to combine the projectile and plunger assembly taught by Maki to the interlocking wedging feature taught by Tanner et al. The motivation would have been to produce a more positive connection between the projectile and plunger thereby improving projectile stability as it travels through the gun barrel.

Consider claim 3, Maki does not teach wedging elements (i.e. bevel, diameter reduction, and hemisphere) including a hollow cylindrical design of the end of the projectile spigot facing towards the intercalation (i.e. insertion). Maki does not teach that the underside of the projectile spigot exhibits an inwardly inclined bevel. Maki does not teach that the bore inside the plunger exhibits a hemisphere arranged at the bottom, and a diameter reduction being arranged on the wall of the bore above the hemisphere. However, Tanner et al. teaches a shotgun projectile with a truncated conical cavity capable of interlocking with a support located under the projectile. See Figure 2a.; *see also* Tanner et al., column 2, line 69, ("On firing of a shotgun cartridge . . . the slug will tend to deform and material near its base will flow into the radial groove."). Therefore, it would have been obvious for one skilled in the art at the time the invention was made to combine the projectile and plunger assembly taught by Maki to the interlocking wedging feature taught by Tanner et al. The motivation would have

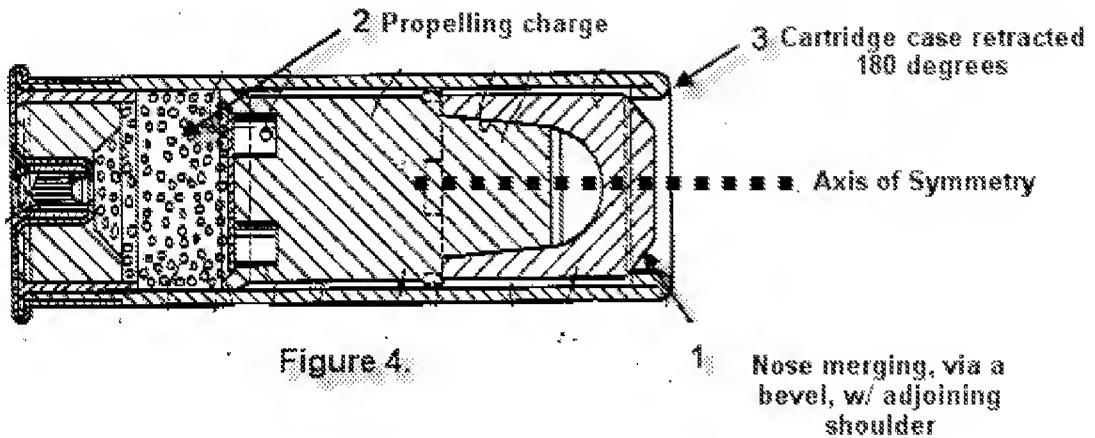
been to produce a more positive connection between the projectile and plunger thereby improving projectile stability as it travels through the gun barrel.

Consider claim 9, Maki teaches a shotgun-barrel projectile characterized in that the nose of the projectile merges, via a bevel with an adjoining shoulder running parallel to the axis of symmetry. (See Figure 4. below, part 1). Maki does not teach a plane face running perpendicular to the axis of symmetry. (See Figure 4. below). It would have been an obvious matter of design choice to include the plane face to Maki, since applicant has not disclosed that the plane face running perpendicular to the axis of symmetry solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well without the plane face.

Consider claim 10, Maki teaches a shotgun projectile with an intercalation consisting of a readily deformable material. See Maki column 3, paragraph eight ("The [intercalation] . . . can be made of synthetic resin being strong enough to bear against the explosive pressure and a flexibility, such as polyurethane").

Consider claim 11, Maki teaches a cartridge case with a propelling charge with an intercalation mounted on a propelling charge. (See Figure 4. below, part 2).

Consider claim 12, Maki also teaches that the upper end of the cartridge case is retracted by 180° and rests on the plane face. (See Figure 4. below, part 3).



6. Claims 4, 5, 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maki (US 4,587,905) in view of W. Tanner et al. (US 3,058,420) and further in view of Haep et al. ((US 4, 109, 582)).

Consider claim 4, Maki does not teach a ring connected to the outer periphery of the plunger; however, Haep et al. does teach a ring connected to the outer periphery of a projectile acting as both a stop and projectile stabilizer. (See Haep Figure 3. below, part 1; see also Haep et al. column 1, paragraph 2). In addition, although Maki does not teach a ring surrounding the projectile, Maki does teach a plurality of peripheral projections from the top end of the intercalation body. (See Figure 4. below). It would have been obvious to one with ordinary skill in the art to combine the ring taught by Haep et al. to the projectile and plunger taught by Maki (or to reconfigure the peripheral projections taught by Maki to become essentially a ring) because the essential purpose of both the ring in this application and the ring taught by Haep et al. is projectile stabilization.

Figure 3.

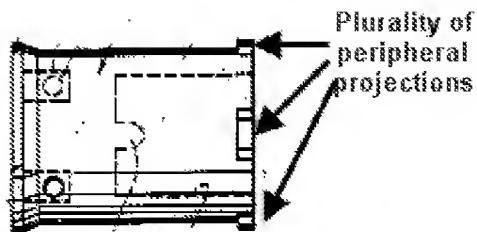
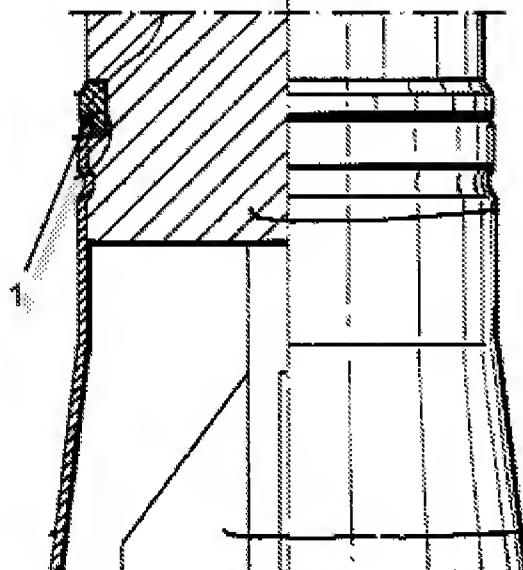


Figure 4.

Consider claim 5, Maki does not teach a shotgun-barrel projectile with a ring formed in one piece with a plunger; however, Haep et al. does teach a ring captured between two mating halves of a projectile. (See Haep et al. column 1, paragraph 3). It would have been obvious to one with ordinary skill in the art to combine the ring taught by Haep et al. to the projectile taught by Maki. The motivation in both cases is increased projectile stabilization as it travels through the gun barrel.

Consider claim 6, Maki does not teach a shotgun-barrel projectile in that a ring constitutes a stop for the projectile base; however, Haep et al. teaches ring initially placed within an annular groove of one of two separable halves of a projectile jacket. (See Haep et al. column 1, paragraph 1). It would have been obvious to one with ordinary skill in the art to combine the ring constituting a stop

taught by Haep et al. to the projectile taught by Maki. The motivation would be to aide in projectile assembly.

Consider claim 7, Maki does not teach a shotgun-barrel projectile in that the ring is an L-shaped shank with one shank encompassing the projectile almost as far as the nose of the projectile; however, Tanner et al. does teach an L-shaped structure encompassing a projectile. (See Figure 5., below). It would have been obvious to one with ordinary skill in the art to combine the ring structure taught by Tanner et al. to the projectile taught by Maki. The motivation would again be projectile stabilization as it moves through the gun barrel.

Consider claim 8, Maki does not teach a shotgun-barrel projectile with a L-shaped ring wherein one shank exhibits an inward-facing projection that engages a corresponding recess in the projectile. However, Tanner et al. does teach an inward facing projection and a corresponding recess. (See Figure 6., below). It would have been obvious for one skilled in the art at the time the invention was made to combine the L-shaped structure (with an inward facing projection and corresponding recess) taught by Tanner et al. to the projectile taught by Maki. The motivation in both cases would be a to create a more positive connection between the projectile and the surrounding ring.



Figure 5.

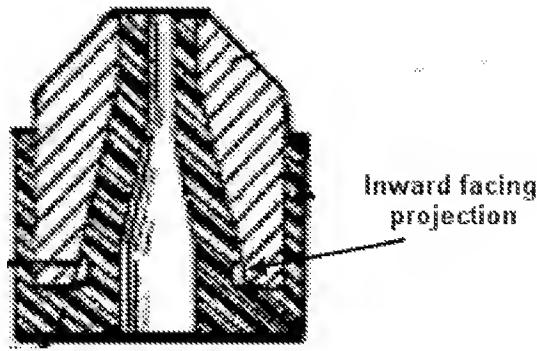


Figure 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REGINALD TILLMAN, JR whose telephone number is (571)270-7010. The examiner can normally be reached on Monday to Thursday 730 to 500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thu Nguyen can be reached on 571-272-6967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/REGINALD TILLMAN, JR/
Examiner, Art Unit 4155

/Thu Nguyen/
Supervisory Patent Examiner, Art Unit 4155